

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<b>In re Application of:</b>	<b>Bourrieres and Kaiser</b>
<b>US National Stage of:</b>	<b>WO 2004/054444</b>
	<b>Claiming Priority to PCT/FR2003/003668 filed</b>
	<b>12/10/03</b>
<b>US Application No.:</b>	<b>10/530093</b>
<b>Filed:</b>	<b>April 1, 2005</b>
<b>For:</b>	<b>IDENTIFICATION AND AUTHENTICATION</b>
	<b>PROCESS WITHOUT SPECIFIC READER OF</b>
	<b>AN IDENTIFIER ATTACHED TO AN OBJECT</b>
	<b>OR TO LIVING BEING</b>
<b>Examiner:</b>	<b>Uyen Chau N. Lee</b>
<b>Group Art Unit:</b>	<b>2887</b>

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Docket No.: N48.21-11807US01**

**APPEAL BRIEF**

This is an Appeal Brief for the above-identified application in which pending claims 10-15 were rejected in the Final Office Action dated December 13, 2007.

A Notice of Appeal and fee was filed in this case on Monday, **April 14, 2008**, with a one month extension request and fee.

The Commissioner is authorized to charge Deposit Account No. 22-0350 for any other fees which may be due with this Appeal Brief.

**(i) Real Party in Interest**

The Application is assigned to NOVATEC SA having its principal place of business at 350, Avenue d'Italie, ZA Albasud, F-82000 Montauban (FR). NOVATEC SA is a small entity.

**(ii) Related Appeals and Interferences**

No related interferences or Appeals are currently pending.

**(iii) Status of the Claims**

Claims 1-15 have been presented in the application. Claims 1-9 were canceled in a Preliminary Amendment filed with the US National stage entry. Claims 10-15 were added in the same Preliminary Amendment. Claims 10-15 are currently pending. Claims 10-15 are rejected. Claims 10-15 are the subject of this appeal.

**(iv) Status of Amendments**

Claims 10-15 were finally rejected in an Office Action mailed December 13, 2007 and are the subject of this Appeal. An Amendment After Final was filed on 20 February, 2008, with an amendment of claim 10. An Advisory Action mailed March 20, 2008 advised that the Amendment would not be entered upon filing a Notice of Appeal. An interview was held with Examiner Le on April 11, 2008, the result of which was an Agreement to enter the 20 February 2008 amendment for purposes of appeal. Notice of Appeal was filed on April 11, 2008. An Advisory Action mailed April 21, 2008 confirms the entry of the 20 February 2008 Amendment After Final. Consequently the claims on appeal stand as amended by the 20 February 2008

Amendment After Final.

**(v) Summary of Claimed Subject Matter**

A summary of the independent claims, as required by 37 C.F.R. § 41.37(c)(1)(v), and a non-limiting listing of locations where support may be found, {braced citations} is provided below. The reference characters in parentheses are in the claim and may be taken as referring to Figs 1 and 3-5, which depict embodiments of the claimed invention.

Independent claim 10 recites:

An identification and authentication process that is indirect and does not employ a specific reader {original claim 1, line 1, page 3, lines 5-6}, for identifying an object {page 3, lines 8-10} the process characterized in that:

a three-dimensional identifier is attached to the review object {page 3, lines 8-10}, the identifier presenting three-dimensional heterogeneities distributed in a random manner within a transparent material {page 3, lines 20-22} rendering the identifier difficult or impossible to reproduce {page 3, line 9},

the process uses stereoscopic vision (A) of the human eye (12) to verify a three-dimensional appearance and confirm the authenticity of the three-dimensional identifier (1) {page 3, lines 22-24}, and

the identification process or reading is made by visual comparison (B) of a two-dimensional first image (2) of the three-dimensional identifier (1) stored in a database (4) accessible by a network (5), to the three-dimensional identifier (1) {page 3, lines 24-27}.

**(vi) Grounds of Rejection to be Reviewed on Appeal**

1. Whether the Examiner Erred in rejecting claims 10-15 as obvious from Rothfjell, US 3,805,238 A, in view of Constant et al US 2003/0154446 A1.

**(vii) Arguments**

**A. The Invention**

The invention relates to a process for identifying an object that does not use a reader. The process relies upon a particular identifier that is attached to the review object. The identifier presents three-dimensional heterogeneities distributed in a random manner in a transparent material (*e.g.* the example of Figure 1 uses bubbles or solid particles randomly distributed in a transparent matrix). The randomness of the heterogeneities in three-dimensions makes it very difficult or impossible to reproduce a matching identifier. It also permits the object to which the identifier is attached to be identified with an extremely high reliability on the basis of as few as two simple visual identification steps.

One step involves visually confirming, using stereoscopic vision that the identifier being inspected does in fact present the heterogeneities in three-dimensions. This confirms authenticity of the identifier itself. The second step is a matching the appearance of the identifier to a two-dimensional representation in a database to identify the object to which it is attached.

A two-dimensional image can be easily reproduced. Not so with three-dimensional random heterogeneities. Matching the two-dimensional image of a random three dimensional distribution by producing another object with heterogeneities in three dimensions is exceedingly difficult or impossible. Therefore, confirming that the identifier that one is currently viewing comprises three-dimensional heterogeneities, by itself, confirms that an authentic identifier is being

presented. Finding a match in a database is a matter of comparing the identifier to a two-dimensional image in a database. The database does not need to store and transmit a three-dimensional image or three-dimensional image information. The coupling of the three-dimensional authentication of the identifier with a match for the two-dimensional image provides an authentication and identification that has an extremely high reliability and very easy implementation.

The invention has great practicality. The identifier can be inexpensively produced and applied to objects of all types, individuals as well as mass produced objects, and is particularly suited to implementation on labels or access cards for a right or a service to provide unique substantially unforgeable identities. The present invention provides a way in which individuals can identify and authenticate the object with minimal hardware. Access to the database, and normal human vision capacity, are all that is required to practice the inventive method.

#### **B. The Rejection**

Rothfjell (US 3,805,238) is cited by the Examiner as containing all features of the claims except for the feature of a database accessible by a network. Constant et al (US 2003/0154446 A1) has been cited only for showing image files stored in a database accessible by a telecommunication network, and indeed it appears to have no other relevance to the invention. Therefore the rejection stands or falls on the question of whether Rothfjell meets all of the recitations of claim 10, except for the "accessible by a network" recitation.

The applicant does not agree that Rothfjell satisfies the claim recitations except for the feature of a database accessible by a network. Rothfjell has been cited and distinguished on page 2, lines 4-19 of the application.

Rothfjell works only for individuals having characteristic curves, not for objects

which can be identical (such as industrial products).

Rothjell discloses a method for identifying individuals using selected characteristic body curves. Thus Rothjell is a direct identification and authentication method as the characteristic body curves are directly compared with the photographs of the individual or with the individual itself. In some embodiments the photographs may be included on a laminated ID card that has an outline of the characteristic curves arranged in layered alignment with the photograph. The photograph and the body curve outline are both representations. There are no three-dimensional heterogeneities utilized in the Rothjell ID card. The outline of the characteristic curve is produced from the image so it is not in any way to be considered random even if it contains three-dimensional information (as in the case of a hologram)

In the claimed invention the identification and authentication uses a three-dimensional identifier with three-dimensional heterogeneities that is attached to the object to be identified. Rothjell does not teach or suggest to attach and use such an identifier.

The Final Office Action contends that Rothjell at col. 4, lines 23-42 meets the claim recitation of "a three-dimensional identifier ... the identifier presenting heterogeneities distributed in a random manner within a transparent material rendering the identifier difficult or impossible to reproduce." The contention is clearly erroneous. The cited section is describing ID cards. Rothjell's ID cards unquestionably do not meet this claim recitation.

It seems that the Examiner considers the representation of the body curves in a layered identity card as a three-dimensional identifier. Rothjell's representation of body curves cannot be considered as a random distribution of three-dimensional heterogeneities rendering the identifier difficult or impossible to reproduce. The body curves are copied from the image of the

individual. Claim 10 explicitly states that the heterogeneities of the three-dimensional identifier are themselves three-dimensional. Nothing in the Rothjell ID card presents three-dimensional heterogeneities.

Furthermore, there is nothing about the body curves that render them difficult to reproduce. Like the photograph itself, the body curve representation can be duplicated many times. It is therefore easy to produce several identical identity cards for the same individual. Further, placement of the bodycurve outline on the card is non-random. They are aligned with the photograph in order to provide a means of recognizing tampering. Note that difficulty in tampering with the identity card (which is what is discussed by Rothjell at col. 4, lines 32-42) has nothing to do with difficulty in reproducing the body curve outline or in inserting the reproduced body curve outline on another ID card. Thus, it is a characteristic of the Rothjell identification process that only the individual, not the representations of the individual contained on the ID card, present difficulty in reproduction.

Whereas Rothjell works only for individuals having characteristic curves, in the present invention the identifier itself presents three-dimensional heterogeneities distributed in a random manner within a transparent material. This random distribution in three dimensions renders the identifier difficult or impossible to reproduce. Consequently the claimed process can be easily implemented to give unique identities to otherwise identical objects.

The differences between the claimed method and Rothjell are summarized in the table below.

	Rothjell	Present Invention
What is identified or authenticated	<b>Individuals</b>	<b>Objects</b>
Identification and authentication means	Characteristic body curves	3D identifier presenting 3D heterogeneities distributed in a random manner within a transparent material
Identification and authentication method	The characteristic body curves are <b>directly</b> compared with photographs or with the individual itself	<b>Indirect:</b> the authentication is made on the basis of the identifier which has been attached to the object. The object itself doesn't need to have any unique characteristics or "body curves"
Process steps	<ul style="list-style-type: none"> <li>- Nothing is done to the individual.</li> <li>- Compare photographs and individual</li> <li>- Compare the represented body curves with photograph and individual</li> </ul>	<ul style="list-style-type: none"> <li>- A three-dimensional identifier is <b>attached</b> to the review object.</li> <li>- Check 3D aspect of <b>the identifier</b> by using the stereoscopic vision of the human eye</li> <li>- Compare the position of the heterogeneities randomly distributed in <b>the identifier</b> with a two-dimensional representation of the identifier stored in a database accessible by a network</li> </ul>

For all of the reasons given above the claimed invention is fundamentally different from that of Rothjell.

### C. Applicable Law

In *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) the U.S. Supreme Court set forth the basic framework for analysis of obviousness under 35 USC §103. Obviousness is a question of law based on underlying factual inquiries. The factual inquiries enunciated by the Court are as follows:

- (A) Determining the scope and content of the prior art; and
- (B) Ascertaining the differences between the claimed invention and the prior art; and
- (C) Resolving the level of ordinary skill in the pertinent art.

Objective evidence non-obviousness must also be evaluated when present.

In the instant case the Examiner has made a clear error in step (B) of the Graham analysis by mischaracterizing the differences between the claimed invention and the prior art.



That error has lead to a clearly erroneous rejection.

The Examiner clearly erred in characterizing the Rothfjell reference as meeting all of the elements of independent claim 10 except for the feature of a database accessible by a network. In so doing, the Examiner failed to correctly ascertain the differences between the claimed invention and the prior art. The differences set forth herein are substantial and not suggested by the cited art.

**D. Conclusion**

Rothfjell clearly does not meet the three-dimensional identifier/three-dimensional random heterogeneity recitations of claim 10. At least for that reason the combination of Rothfjell and Constant et al does not render the subject matter of claims 10-15 obvious. For that reason reversal of the rejection is respectfully requested.

Respectfully submitted,  
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**(viii) Claims Appendix**

10. An identification and authentication process that is indirect and does not employ a specific reader, for identifying an object the process characterized in that:

a three-dimensional identifier is attached to the review object, the identifier presenting three-dimensional heterogeneities distributed in a random manner within a transparent material rendering the identifier difficult or impossible to reproduce,

the process uses stereoscopic vision (A) of the human eye (12) to verify a three-dimensional appearance and confirm the authenticity of the three-dimensional identifier (1), and

the identification process or reading is made by visual comparison (B) of a two-dimensional first image (2) of the three-dimensional identifier (1) stored in a database (4) accessible by a network (5), to the three-dimensional identifier (1).

11. An identification and authentication process as in claim 10 wherein  
a second image (3) similar to the two-dimensional image (2) of the identifier (1) (9) (10) (11) is prepared,  
the second image (3) is physically associated with the three-dimensional identifier (1) (9) (10) (11),  
a first visual comparison (C) is carried out between the three-dimensional identifier (1) (9) (10) (11) and the second image (3),  
a second visual comparison (D) is carried out between the first image (2) and the second image (3).

12. An identification and authentication process as in claim 10 wherein a call number and/or a password is associated with the identifier in order to facilitate and secure access to the database (4).

13. An identification and authentication process as in claim 10 wherein the network (5) is a telecommunications network.

14. An identification and authentication process as in claim 10 wherein the identifier (1) (9) (10) (11) and/or the two-dimensional first image (2) present a particular marking or identification in order to facilitate the visual comparison.

15. An identification and authentication process as in claim 11 wherein the identifier (1) (9) (10) (11) and/or the two-dimensional first image (2) and/or the similar second image (3) present a particular marking or identification in order to facilitate the visual comparisons.

**(ix) Evidence Appendix**

None

**(x) Related Proceedings Appendix**

None.